

## Foetal alcohol syndrome

Alcohol consumed by a pregnant woman can harm her unborn baby. Foetal alcohol syndrome (FAS) includes a range of features seen in some babies who were exposed to alcohol before birth.

Two other terms – foetal alcohol effects (FAE) and alcohol-related neurodevelopmental disorder (ARND) – refer to effects on a baby who has some but not all of these features.

An accurate diagnosis can help provide appropriate care for the child and prevent recurrence in a later pregnancy.

### Research varies on the number of babies affected

Research into the number of babies born with FAS varies. Figures range from 0.02 to 2.7 per 1,000 babies born. Foetal alcohol effects may be more common than this but the exact rate is unknown. The syndrome appears to occur more often in Indigenous communities. This could be related to drinking patterns, nutrition and environmental factors.

### Alcohol and the risk to unborn babies

Babies severely affected by FAS are at risk of dying before they are born. Current knowledge suggests there is no safe level of alcohol consumption during pregnancy, but there is no convincing evidence that a small intake is harmful.

Heavy alcohol consumption in the early months of pregnancy is regarded as particularly dangerous.

### Peak health organisations say pregnant women should avoid alcohol

The National Health and Medical Research Council (NHMRC), Australia's peak health research organisation, recommends that pregnant women should never become intoxicated (drunk) and should consider not drinking alcohol at all. The World Health Organization recommends that pregnant women should be advised not to drink alcohol.

### Signs at birth that might indicate FAS

At birth, FAS signs can include:

- Low birth weight
- Smaller than normal head circumference (microcephaly)
- Small eyes
- Flattened face
- Flattened bridge of the nose
- Underdeveloped vertical ridges that run from the nose to the upper lip (philtrum)
- Thinner than normal upper lip
- Small lower jaw (micrognathia)
- Heart defects
- Tightening of muscle, tendons, ligaments or skin restricting movement of elbows or knees (joint contractures).

A low birth weight or smaller head circumference alone may represent foetal alcohol effects.

### Lifelong effects

Foetal alcohol syndrome is not always diagnosed at birth. Diagnosis may be made later, when the child is having problems with learning or behaviour, or the condition may never be diagnosed. The effects of this syndrome last for life.

A person affected by FAS may experience a range of difficulties including:

- Low IQ (around 70 – an IQ of 100 is considered average)
- Developmental delays
- Behaviour problems

- Learning difficulties
- Memory problems
- Increased risk of behaviour problems – for example, attention deficit hyperactivity disorder
- Increased risk of mental health difficulties such as depression and psychosis
- Increased risk of alcohol and drug misuse.

### Alcohol and the developing foetus

Alcohol crosses the placenta from the mother's blood into the baby's bloodstream. This means the baby shares the exact blood alcohol level of its mother. The effects of alcohol on a foetus include:

- Harm to the development of the foetal nervous system, including the brain; some studies show that alcohol can kill developing brain cells or slow their growth
- Undernourishment of the growing baby by blocking the absorption of vitamins, glucose and other nutrients
- Triggering of earlier-than-normal cell changes in the baby's face, resulting in the typical FAS facial features
- Reduction in the amount of oxygen available to the baby, although how this happens is unknown; it is possible that alcohol narrows the blood vessels in the placenta, umbilical cord or both, restricting blood supply.

### The exact incidence is unknown

The incidence of foetal alcohol syndrome varies from study to study for a number of reasons:

- While FAS is considered internationally to be the leading preventable cause of intellectual and developmental problems, there is little public awareness of the syndrome in Australia. Parents and doctors may not realise that FAS is the cause of a child's developmental problems.
- FAS is hard to isolate because alcohol is often not the only drug consumed during pregnancy. Evidence suggests that a woman who drinks while pregnant is also more likely to smoke cigarettes, use non-prescription and over-the-counter drugs, or take recreational drugs such as cannabis. Like alcohol, these substances cross the placenta and affect a growing baby's development. A pregnant woman who misuses alcohol may also not eat properly, which may affect her baby's health.
- There is no single medical test that can diagnose FAS – this leads some researchers to believe that the actual rate may be much higher than estimated.
- Many children diagnosed with alcohol-related symptoms are in care (not living with their families). Many factors, as well as alcohol, could contribute to their delayed development.
- FAS may not be diagnosed at birth. Doctors don't always know if a woman has been misusing alcohol during pregnancy, so the symptoms of FAS may not be looked for. FAS is usually not diagnosed at birth.
- An affected child may be diagnosed with another condition such as autism.
- There are many environmental and individual factors that can contribute to learning and behavioural problems; alcohol may be one of many.

### Risk factors

There is no evidence that drinking modest amounts of alcohol during the first trimester is safe, but most babies affected by FAS are born to mothers who drink excessively throughout pregnancy. Some authorities regard women who consume seven or more alcoholic drinks per week, or more than two drinks on multiple occasions, as drinking to excess.

Risk factors associated with an increased risk of FAS include:

- **An older mother (advanced maternal age)** – women over the age of 30 years who drink moderate to heavy amounts during pregnancy are more likely to have babies affected by FAS than younger women who drink the same amount when pregnant.
- **Poverty** – alcohol consumption is higher in low socioeconomic groups; poor nutrition may also be a factor.
- **Genetic susceptibility** – while FAS seems to be related to the amount of alcohol consumed, not all babies are affected in the same way by alcohol. Not every baby exposed to alcohol in the uterus develops FAS; the reason for this is unknown. Researchers believe that some babies are more sensitive to the effects of alcohol than others because of genetic differences.
- **Other drugs** – drugs taken during pregnancy (including tobacco, prescription drugs, illegal drugs and caffeine) may increase the effects of alcohol on the foetus.

- **Lack of knowledge** – research shows that most Australian women are unaware that alcohol consumed during pregnancy can harm the baby. In one Western Australian study, only 22 per cent of women knew about FAS and about one-third thought it was safe to drink moderate amounts of alcohol during pregnancy.
- **Lack of medical advice** – about two-thirds of pregnant women are not given medical advice on drinking alcohol during pregnancy or they may not know about the guidelines relating to alcohol consumption in pregnancy.

### Diagnosis

There is no specific medical test for FAS. Diagnosis relies on:

- Recognising the pattern of features
- Ruling out other possible medical causes
- Questioning the mother on her alcohol consumption during pregnancy.

### Treatment

There is no cure for FAS. Treatment is available for the child, including special education programs and behaviour modification therapy.

### Where to get help

- Your doctor
- Royal Women's Hospital, Drug Information Line Tel. (03) 9344 2277
- Monash Medical Centre, Monash Drug Information Service Tel. (03) 9594 2361
- Australian National Organisation for Fetal Alcohol Syndrome and Related Disorders (NOFASARD) Tel. 0418 854 947
- DrugInfo Clearinghouse Tel. 1300 858 584 – for information [www.druginfo.adf.org.au](http://www.druginfo.adf.org.au)
- DirectLine Tel. 1800 888 236 – for counselling and referral

### Things to remember

- Fetal alcohol syndrome (FAS) refers to a range of features that affect some babies exposed to alcohol before birth.
- There is no cure for FAS and its effects last a lifetime.
- The World Health Organization recommends that pregnant women should avoid alcohol. NHMRC recommends that pregnant women should never become intoxicated and should consider not drinking.

**This page has been produced in consultation with, and approved by:**

Genetic Health Services Victoria

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